

## ABSTRACT OF THE DISCLOSURE

When two sine-wave signals in quadrature, the integral of the output is equal to zero. Conversely, when an in-phase signal is inputted as one multiplicand and the output is set to zero, a quadrature signal is derived from the second multiplicand automatically. Any analog multiplier can be used. Examples using differential pair and conductance multiplier have been demonstrated. The multiplier operates over a wideband, and the in-phase and quadrature signals can be equalized automatically.

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